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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/614,105
Filing Date: July 08, 2003
Appellant(s): YAMAZAKI ET AL.

Shrinath Malur
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 31st, 2010 appealing from the Office action mailed February 3rd, 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:
Claims 13-20.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

Rejection of claims 13, 14, 16, 17, 19, and 20 under 35 USC 103(a) as being unpatentable over Ohishi in view of Ginsberg, and in view of Itoh is presented for review on appeal. Further, rejection of claims 15 and 18 under 35 USC 103(a) as being unpatentable over Ohishi in view of Ginsberg and in view of Itoh, as applied to claims 13, 14, 16, 17, 19, and 29, and in further view of Minekane is presented for review on appeal.

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of claims 16-18 under 35 USC 112, 2nd paragraph, has been removed.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6,019,945	OHISHI	2-2000
4,234,538	GINSBERG	11-1980
5,445,037	ITOH	8-1995
4,808,380	MINEKANE	2-1989

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 13, 14, 16, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as obvious over Ohishi et al. (6,019,945), hereafter Ohishi, in view of Ginsberg et al. (4,234,538), hereafter Ginsberg, and in view of Itoh (5,445,037)

Ohishi discloses a sample analysis system. Ohishi shows in figure 3 a controlled (connected to computer 6B and control unit 40; computer 6A as designated in fig. 2) analysis unit 3B in which there are a plurality of reagent disks 26a, 26b. Ohishi also shows a plurality of reagent dispensing probes 8a, 8b arranged to suck reagent from one of the reagent containers (12a, 12b; which are capable of holding first and second reagents in a package), and inject the reagent into one of the reaction cells 46b (within

reactor section 5b). Examiner further asserts that the reagent dispensing probes 8A, 8B are controlled so that only one of the first and second reagent dispensing probes sucks/injects first or second reagent during a predetermined cycle of a pitch and a stop of said reaction disk. This is such that one of the plurality of reactor cells 46B, which has been preloaded with sample (analysis item), is brought to a stop at a first position at which reagent pipetter 8A is controlled to inject first reagent into reactor cell 46b, while the second dispensing probe is uncontrolled and does not dispense second reagent at such a pitch and stop of the reactor cell. Ohishi discloses that the reactor cell is then moved to arrive at a second position where pipetter 8B is controlled to inject the second reagent to the reactor cell 46, while the first pipetter is idle (lines 23-67, col. 6; lines 1-13, col. 7, fig. 3). Ohishi discloses light source 14a and multi-wavelength photometer 15a for optical measurement of the reactor solution in reactor cells 46b; Ohishi further discloses that the signal from photometer 15a is converted by A/D converter 30A and distributed over computer 6A to host control computer 40 (lines 1-23, col. 6).

Ohishi does not disclose including first and second reagent dispensing probes arranged at each of the reagent disks (four probes; first, second, third, and fourth as in cl. 19&20). Ohishi also does not disclose that the controller controls the dispensing of the first reagent by the first reagent dispensing probe of the first reagent disk and by the first reagent dispensing probe of the second reagent disc to be performed in an alternating manner (equivocal to the first and third dispensing probes as in cl. 19, and further the second and fourth probes as in cl. 20).

Ginsberg discloses an automatic analyzer that includes first and second reagent dispensers 44, 46 arranged about a reagent disc 42, such that first and second reagent are added from the same reagent disk to a reaction cuvette 32 (analysis item; analyzed by light source 50/detector 52) (abstract; lines 20-32, col. 5, fig. 1).

Itoh discloses a sample dispensing apparatus. Itoh discloses that the apparatus includes a plurality of probes, each probe including a probe head 32 and 38 with nozzles 33, 39 for aspirating and discharging the sample. Itoh discloses that the plurality of nozzles being movable to aspirate and discharge sample independently of each other (lines 33-67, col. 3+; fig. 1). Itoh further discloses that the take up/distributing unit 30 operations are performed alternately by the pair of taking up/distributing mechanisms 30A, 30B (which include the probes and nozzles for dispensing), the taking up/distributing time is shortened, thereby improving the processing speed of the apparatus (line 65, col. 9 – line 5, col. 10).

It would have been obvious to modify Ohishi to include first and second reagent dispensing probes arranged at a disk, and further to control the first and second reagent dispensing probes so that a single analysis item is analyzed by using reagents in reagent containers arranged on the same reagent disk such as taught by Ginsberg in order to increase throughput by providing a second and clean dispensing probe that is available for immediate use on the next progression, and further providing both necessary reagents on a single reagent disk as taught by Ginsberg as an alternative arrangement of the necessary first and second reagents, which provides a single reagent disk for carrying out the necessary reaction, so that throughput is not decreased

by breakdown of the other reagent disk. Further, it would have been obvious to apply this to both reagent disks of Ohishi (26A and 26B; thereby yielding four reagent dispensers in total) so that a second, clean dispensing probe would be available to both of the first and second reagents contained at the reagent disks 26A, 26B; thereby throughput would increase as fewer cleaning steps for the dispensing probes would be required and more probes would be available to dispense reagent into the reaction containers within the reaction disk.

It would have further been obvious to modify Ohishi to have the controller control operations of the first reagent dispensing probe of the first reagent disk and the first reagent dispensing probe of the second reagent disk (and likewise with respect to the first and third probes, and second and fourth probes as in cls. 19&20) such as taught by Itoh who discloses that an alternating operation of the plurality of probes provides to yield faster processing time and thereby higher throughput.

Claims 15 and 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohishi in view of Ohishi in view of Ginsberg and in view of Itoh as applied to claims 13,14, 16, 17, 19, and 20 and in further view of Minekane (4,808,380).

Ohishi/Ginsberg/Itoh does not disclose at least one reagent disk arranged inside a reaction disk.

Minekane discloses an automatic chemical analyzing apparatus. Minekane discloses a cuvette rotor 18 in which cuvettes 20 are mounted in an annular array to receive sample and reagent to be then analyzed by a photometer (reaction disk 18 with

reaction cells 20). Minekane further discloses reagent supply 14, which has a pair of coaxial reagent rings 24 and 26, and is placed peripherally within the ring of cuvette arrays (arranged inside the reaction disk) (lines 19-67, col. 2, fig. 1).

It would have been obvious to modify Ohishi /Ginsberg/Itoh to arrange reagent disks inside the reaction disk such as taught by Minekane in order to save space and optimize the workspace area.

(10) Response to Argument

With regards to claims 13 and 14 rejected under 35 USC 103(a) as being unpatentable over Ohishi in view of Ginsberg and Itoh, Appellant traverses the rejection.

Appellant argues that Ohishi, Ginsberg, and Itoh do not teach or suggest a controller that controls dispensing of the first reagent by the first reagent dispensing probe of the first reagent disk and by the first reagent dispensing probe of the second reagent disk to be performed in an alternating manner.

Appellant argues that the physical configuration for the taking up/distributing operation in Itoh (here, Examiner assumes Appellant to refer to the Itoh reference, as Itoh is the only reference which specifically uses the terminology of "taking up/distributing", as well as being evident from Appellant's further comments in the section) is completely different from that of claim 13. Appellant argues that the structural configuration of the Itoh system is such that Itoh provides no motivation to control dispensing of the first reagent by reagent probes of two different reagent disks to be performed in an alternating manner as recited in claim 13 because the structure in claim 13 does not suffer from the same physical limitations of Itoh.

Examiner argues that Itoh has not been provided as a modifying reference for particular disclosure to structural elements not specifically disclosed within the primary reference of Ohishi. Examiner argues that Itoh has been provided for a teaching of applying a control operation in which the dispensing probes are operated in an alternating manner so as to yield faster processing times and thereby higher throughput.

Appellant further argues that the asserted references teach away from each other. Appellant argues that Ohishi and Ginsberg present alternative structure for dispensing two reagents. Appellant argues that the motivation to combine to Ohishi and Ginsberg to provide two reagent disks each supplying first and second reagents, is lacking or at best questionable.

Examiner argues that combining of Ohishi in view of Ginsberg provides an obvious combination for the reasons and benefits discussed above in the body of the action. Ohishi discloses two reagent discs, each with a single dispensing probe associated therewith for supplying first and second reagent to an adjacent reaction disk, containing a plurality of reaction cells. Ginsberg discloses a single reagent disc having two dispensing probes, each of the dispensing probes provided for accessing one of the two provided reagents on the reagent disc (inner and outer circles containing separate reagents). Examiner argues that the combination of the one-to-one system of Ohishi with the two-to-one system of Ginsberg provides an obvious combination that yields increased throughput by providing a second, clean dispensing probe that is available for immediate use on the next progression. It would have also been obvious to one of

ordinary skill in the art to apply such a modification to both of the reagent discs of Ohishi (26A and 26B) so as to provide uniformity and maintain a constant processing that provides a second, clean dispensing probe at both discs. By this, fewer cleaning steps for the dispensing probes would be required and more probes would be available to dispense reagent into the reaction containers within the reaction disc. Examiner argues that, as discussed above, Ohishi and Ginsberg do not present dispensing systems that teach away from one another, but provide analogous systems that give obvious reasons for combination thereof so as to achieve beneficial results.

Appellant further argues that the rejection of claim 13 requires the disclosure of Itoh. Appellant argues that the structure of the two taking up/distributing mechanisms 30A and 30B and the take-up location in Itoh provide that the combination of Itoh with Ohishi and Ginsberg is physically improbable if not impossible to do so since the references teach away from each other and, in any event, such a combination does not produce the same invention as recited in claim 13.

Examiner argues, as similarly-discussed above, that Itoh has not been presented for teachings toward particular structural elements not disclosed by any of Ohishi or Ginsberg. Examiner argues that Itoh is being relied upon for disclosure to controlling the operation of dispensing mechanisms in an alternating manner so as to yield faster processing times and thereby increased throughput. Examiner argues that the combination of Ohishi in view of Ginsberg provides for the structure of the reagent disks and dispensing probes associated therewith, and the disclosure of Itoh provides an

obvious modifying reference which teaches that controlling pairs of dispensing probes provides to yield faster processing times and thereby higher throughput.

Appellant argues that the rejection of claim 13 requires the hindsight use of Ohishi, Ginsberg, and Itoh as a template and then picking and choosing only element from the three references that fit into the that template while ignoring the other elements that do not fit and that teach away from each other.

Examiner argues that the disclosures of Ohishi, Ginsberg, and Itoh have not been utilized to read over the claims by way of a hindsight analysis. As discussed above in the body of the action, articulated reasoning has been supplied for the motivation to combine Ginsberg and Itoh with the primary reference of Ohishi. Examiner asserts that the combination of Ohishi, Ginsberg, and Itoh provide an obvious combination to one of ordinary skill in the art. Examiner additionally notes that an incompatibility in the structure of the references does not exist, as purported by Appellant. Specifically with respect to Itoh, Examiner reasserts that Itoh was provided for disclosure to a particular control operation undergone by pairs or dispensing mechanisms and was not supplied for particular structural elements. Examiner asserts that the combination of Ohishi and Ginsberg provide to disclose all of the structural elements of the claim, and Itoh provides disclosure to the control operation applied to the dispensing operation.

With regard to claim 15 rejected under 35 USC 103(a) as being unpatentable over Ohishi in view of Ginsberg and Itoh, as applied to claims 13, 14, 16, 17, 19, and 29, and in further view of Minekane, Appellant traverses the rejection.

Appellant applies the same arguments as those supplied above with respect to claim 13 and maintains that the references are not combinable because forcing the combination of Itoh with Ohishi and Ginsberg would lead to a physically improbable if not impossible scenario in which there is a single take-up location for either the first reagent or the second reagent from the two reagent disks. Appellant further argues that this is made all the more impossible if one of the two reagent disks is placed peripherally within the ring of a cuvette array and rotates on the axis of the reaction disk.

Examiner reasserts those arguments as presented above with respect to claims 13 and 15 and maintains that the disclosure of Itoh has not been relied upon for particular structure, including the location of the take-up position. Examiner further argues that combination with Minekane provides an obvious combination in which it would be obvious to arrange at least one reagent disk inside the reaction disk such as taught by Minekane in order to save space and optimize the workspace area.

With regards to claims 16 and 17 rejected under 35 USC 103(a) as being unpatentable over Ohishi in view of Ginsberg and Itoh, Appellant traverses the rejection.

Appellant applies the same arguments as those presented above with respect to claim 13. Here, Examiner applies the same arguments as presented above and argues

that the claims are properly rejected by the combination of prior art with respect to claim 13.

Appellant further argues that Ohishi discloses two separated reagent disks for providing two reagents, and even though Ginsberg places two reagents on a single reagent disk 42, separate reagent containers are provided for storing the two reagents. Appellant thereby argues that Ohishi and Ginsberg fail to teach or suggest reagent containers that are constructed to allow a package to be contained therein which has both the first reagent and the second reagent.

Examiner argues that Appellant has not structurally distinguished the claimed reagent containers from that of Ohishi or Ginsberg. Appellant's claims merely require the structure of a reagent container and Appellant has not provided any additional structural limitations/relationships which specifically correspond to the "constructed to allow..." recitation that follows. By this, Examiner argues that the reagent containers of Ohishi (12a, 12b) and those of Ginsberg (although Ginsberg is a secondary reference, and Ohishi is not deficient in this respect) are constructed to allow a package to be contained therein which has both the first reagent and the second reagent. Ohishi provides to disclose all of the positively recited claim limitations and the reagent containers of Ohishi, which have available space therein, are thereby constructed to allow a package which has both the first reagent and the second reagent. Examiner asserts that such a recitation is merely drawn to a capability of the container and Appellant has not recited a container which has a structural distinction from that of the container of Ohishi (which is fully capable of the recited functionality).

With regard to claim 18 rejected under 35 USC 103(a) as being unpatentable over Ohishi in view of Ginsberg and Itoh, as applied to claims 13, 14, 16, 17, 19, and 20, and in further view of Minekane, Appellant traverses the rejection.

Appellant applies the same arguments as those found above with respect to claims 13, 15, 16, and 17. Examiner maintains for the reasons discussed above that claims 13, 15, 16, and 17 are properly rejected over the cited art.

With regard to claim 19 rejected under 35 USC 103(a) as being unpatentable over Ohishi in view of Ginsberg and Itoh, Appellant traverses the rejection.

Appellant applies the same arguments as those found above with respect to claim 13, in this instance referring to the alternating control operation with respect to the denoted first and third dispensing probes. Examiner maintains for the reasons discussed above, and within the body of the action, that claim 19 is properly rejected for the same reasons as claim 13.

With regard to claim 20 rejected under 35 USC 103(a) as being unpatentable over Ohishi in view of Ginsberg and Itoh, Appellant traverses the rejection.

Appellant applies the same arguments as those found above with respect to claim 19. By this, Examiner applies those same arguments as found above, and maintains that claim 19 is properly rejected.

Appellant further argues that as claim 20 requires the control of the other two dispensing probe, the second and fourth dispensing probes. Appellant asserts that with two sets of probes leads to at least a doubly improbable if not impossible scenario in which there is a single take-up location for the first reagent from the two reagent disks and a single take-up location for the second reagent from the two reagent disks. As discussed above, Examiner argues that the take-up location of Itoh has not been relied upon and Itoh has been provided for disclosure toward controlling the dispensing probes in an alternating fashion. Examiner further argues that controlling of both sets of probes does not provide a doubly improbable combination, but that it would be obvious to provide such alternating control to both sets of probes so as to fully achieve faster processing times and increased throughput. One of ordinary skill in the art would be motivated to provide alternating dispensing to both sets of probes so as to maintain a constant, uniform processing, in which application to only an individual set of probes would take one away from the goal of faster processing time and would introduce process variability given that both sets of probes would not be operating under the same style of control.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Neil Turk/
Examiner, Art Unit 1773

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